



# Matching Perception and Reality in Our Diets

John Bishow, James Blaylock, and Jayachandran N. Variyam  
(202) 694-5402 (202) 694-5457

**N**utrition advice is often given in terms of eating less of one dietary component (nutrient) or more of another. This advice rests on the assumption that people know not only what nutrients are in the food they eat, but also their quantities—especially difficult information to obtain when dining out at the local cafeteria or steakhouse. Also, nutrition is but one of many attributes people consider in their food choices. Qualities such as taste, variety, and convenience may take precedence over nutrition in people's food consumption decisions.

All the dietary guidance in the world will fall on deaf ears if people believe their diets are already meeting dietary recommendations. Nutrition educators as well as the public would be one step ahead if we can link people's accuracy in assessing their intake to their stock of nutrition knowledge, sociodemographic characteristics, and, of course, actual intake. An added plus is that people's accuracy in assessing their intakes should serve as an indicator of how successfully existing nutrition guidance is being used and understood.

---

Bishow is a doctoral student with the Department of Economics, George Washington University. Blaylock and Variyam are agricultural economists with the Food and Rural Economics Division, Economic Research Service, USDA.

## Realists, Optimists, Pessimists, and the Practical

We used USDA's 1989-91 Continuing Survey of Food Intakes by Individuals (CSFII) and its companion Diet and Health Knowledge Survey (DHKS) to understand how perceived intakes vary from actual consumption, and for which population groups the deviation is largest. Only "meal planners/preparers" are included in both the CSFII and DHKS, so our analysis includes only these individuals. These nationally representative surveys collect information on the foods that people eat and their sociodemographic characteristics, and ask questions about an individual's nutrition knowledge, attitudes about healthy eating, and awareness of the link between diet and health.

To compare people's perceived intake to their actual intake, we focused on a dietary component that has received widespread attention: dietary fat. *The Dietary Guidelines for Americans* recommend that fat constitute 30 percent or less of daily calories. Three-fourths of the respondents in our CSFII-DHKS sample had actual fat intakes that exceeded this limit, averaging 37 percent of daily calories. (A respon-

dent's actual fat intake is the average daily amount of fat from all foods that person consumed over 3 consecutive days.)

Self-perceived intake is inferred from responses to the DHKS question:

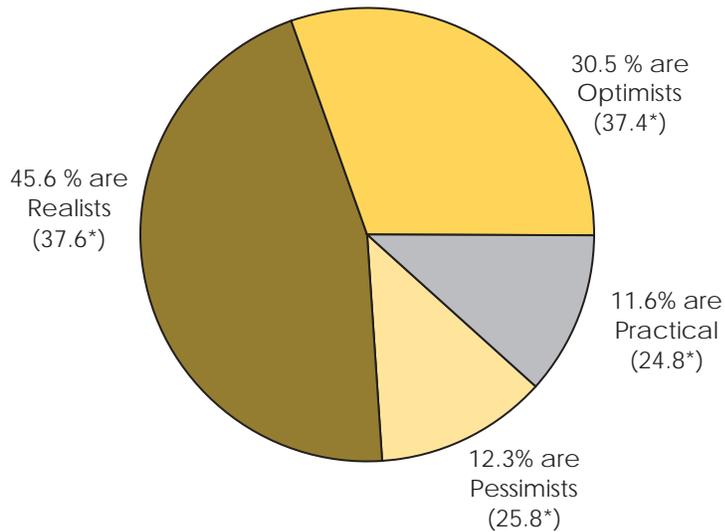
"Let's talk about your own diet. In your opinion, should your diet be lower or higher (in the amount of) fat or is it just about right compared with what is most healthful?"

A "lower" response implies that the person perceives his or her intake to be above the healthful level, and an "about right" response implies that the meal planner perceives his or her intake to be at or below the healthful level. We eliminated a small number of respondents (about 3 percent) who chose "higher," and based our analysis on the remaining 3,732 observations.

For comparing self-perceived intake to actual intake, we established four categories of accuracy for respondents' assessments. Those who correctly assessed their high actual intakes as "should be lower" were the *Realists*, while those who correctly assessed acceptable levels of their actual intake as "about right" were the *Practical*. Respondents who assessed their high actual intakes as "about right" were the

Figure 1

### 30 Percent of Respondents Are Optimists Who Mistakenly Assess Their Fat Intake To Be "About Right"



Note: \*Mean fat intake as a percent of daily calories.

*Optimists*, while those who assessed acceptable levels of their actual intake as “should be lower” were our *Pessimists*.

Of the 76 percent of the respondents with excessive fat intakes, approximately 46 percent were *Realists* and the remaining 30 percent were *Optimists* (fig. 1). In both groups, the mean fat intake represented over 37 percent of daily calories. Meanwhile, the 24 percent of respondents whose fat intakes were at or below the recommended level were split fairly evenly between the *Practical*, those who correctly assessed their intake as “about right,” and the *Pessimists*, those who believed their intakes should be lower still. The mean fat intakes for these two groups were 25 percent and 26 percent of daily calories, respectively.

### Some Quick Policy Implications

These results immediately highlight the potential challenges facing successful nutrition-guidance policies. From a nutrition-guidance perspective, people who have high intakes but who believe their intakes to be “about right”—our *Optimists*—present a special area of concern. People who mistakenly assess their high intakes of fat as “about right” are unaware that their current nutritional choices may be detrimental to their health, and there is no reason to expect them to change their eating habits without further intervention. This group could benefit from additional nutritional education, especially if they are somehow alerted to the health consequences and the fact that they are presently acting under false impressions.

People who have high intakes and correctly assess their intakes as

“should be lower”—our *Realists*—raise questions about what would motivate them to change their eating habits. Many considerations—not just the nutritional value of food—affect dietary choices, and this group might be more responsive to nutritional assistance that alters their perception of what “healthy eating” entails by addressing their concerns about the convenience, affordability, and flavor of healthier diets.

From a practical standpoint, persuading the *Realists* to change their dietary habits could prove to be a costly proposition. This group is already aware that their fat intakes exceed healthful levels, but are perhaps reluctant to do anything about it. Alternatively, the *Optimists* may be willing to eat more healthfully if they are made to realize their dietary errors, and they might be more receptive to nutritional advice. Targeting information efforts toward the *Optimists* might offer a higher return from an investment of limited nutrition-education resources.

### Assessments Vary Across the Population

Further analysis revealed that respondents who are aware that their fat intakes are too high are also the ones least likely to rate nutrition and avoiding too much fat as “very important” in making their food choices. This may indicate resistance by the *Realists* to current nutrition-guidance strategies. The *Practical* have the highest level of awareness of health problems related to fat; they also rate nutrition and avoiding too much fat as more important than did other groups (fig. 2).

There was little difference in the way the men and women in the

DHKS perceived their fat intakes. Seventy-seven percent of men had intakes above the recommended level, and 41 percent of them were mistakenly optimistic, assessing their fat intakes to be about right (fig. 3). Seventy-six percent of women had fat intakes above the recommended level, and 40 percent of them were *Optimists*.

Although there was little difference between the percentages of Blacks and Whites with high fat intakes, there was a large difference between the two groups in the accuracy of their assessments (fig. 3). More Blacks (65 percent) than Whites (59 percent) correctly assessed their fat intakes as high. Conversely, more Whites (41 percent) incorrectly assessed their high intakes as “about right” than did Blacks (35 percent). Not only did a lower percentage of Hispanics have excessive fat intakes, but the share of Hispanics who correctly assessed their own fat intakes as “should be lower” was greater than that of non-Hispanics (roughly a 2-percent difference).

Seventy-nine percent of people who smoke had fat intakes above the recommended level, compared with 75 percent of nonsmokers (fig. 3). Interestingly, even given their higher fat intakes, smokers appeared to be more aware than nonsmokers of their adverse nutritional status. A lower percentage of smokers (37 percent) mistakenly assessed their high intakes of fat as “about right” than did nonsmokers (41 percent).

The most striking pattern of variation in the accuracy of fat intake assessment occurred with age (fig. 4). Excessive fat intake tended to decline with age. Fat intakes were highest for people between ages 30 and 49 years, and lower for people over 50. However, among respondents with high fat intake, the accuracy of assessment decreased dra-

matically with age. A progressively higher percentage of older respondents incorrectly assessed their high fat intakes as “about right.” While

only 32 percent of those under age 30 with high intake were *Optimists*, nearly 60 percent of those over age 70 with high intake were *Optimists*.

Figure 2  
Realists Are Least Likely To Rate Avoiding Too Much Fat as “Very Important”

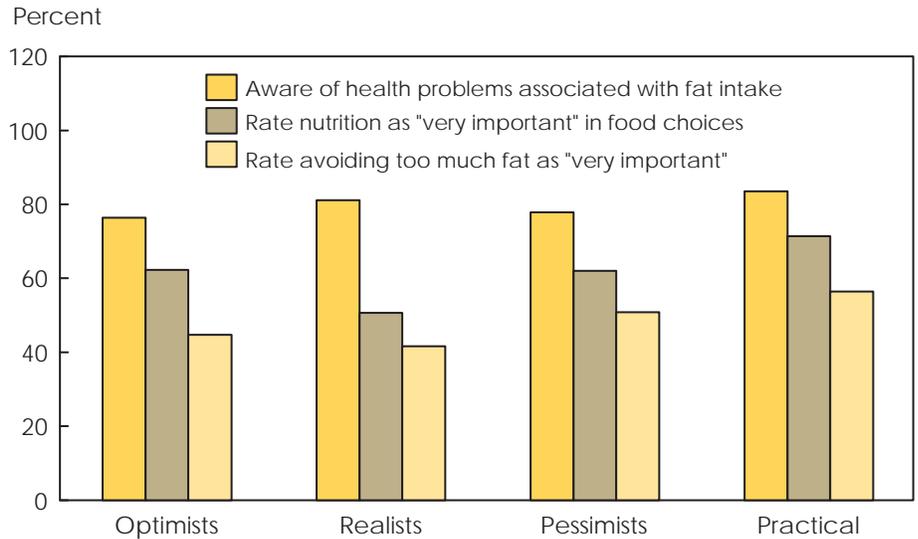
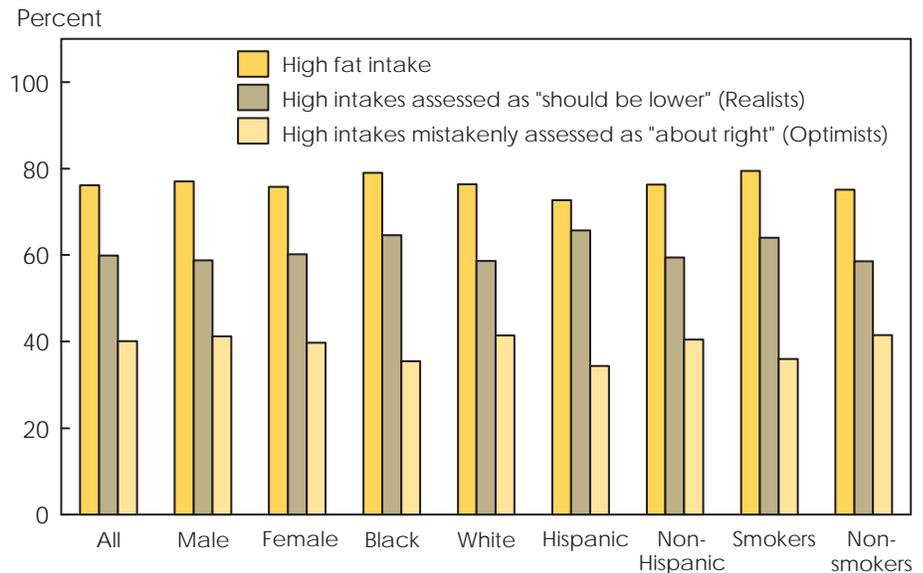


Figure 3  
Blacks Are More Realistic Than Whites About Their Fat Intake



This is worrisome, since the risk of chronic health conditions linked to excess fat intake increases with age.

Not surprisingly, accuracy of fat assessment increases with education and income (figs. 5 and 6). More educated and higher income respon-

dents have greater access to magazines and newspapers and, therefore, may have more nutrition information that enables them to assess their intake levels more accurately and make more healthful food choices.

Among those with high fat intake, the share who rated their intake as “about right” decreased as education increased, declining from 45 percent of those with less than a high school education to only 37 percent of those with postgraduate schooling. Similarly, while 47 percent of the poor (those with income at or below 130 percent of the poverty line) rated their high intake as “about right,” only 39 percent of wealthier people (those with incomes above 350 percent of the poverty line) did so.

### Good Intentions, But Small Changes

While it is difficult to make strong assertions without more rigorous analysis, there is reason to suspect that the groups of respondents who mistakenly assessed their excessive intakes as “about right”—the *Optimists*—may consist largely of people who have intentions of maintaining a healthy diet, but may have misinterpreted or misunderstood the health and diet information available to them. Confusion on the part of consumers in sorting out huge volumes of often-conflicting nutritional and health information has been well documented in both the popular press and in professional literature.

The groups who correctly assessed their intakes as too high—the *Realists*—may be influenced by other elements of nutritional choice. Many of these respondents may be skeptical about the evidence linking health and nutrition. Or they may have strong preferences for high-fat or high-cholesterol foods, coupled

Figure 4  
Accuracy of Assessment Is Inversely Related to Age

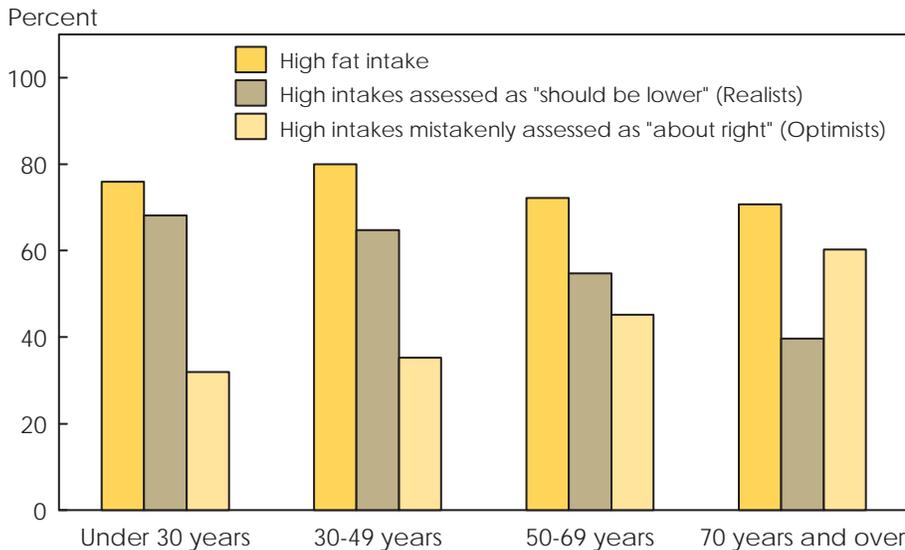


Figure 5  
Accuracy of Assessment Increases with Education...

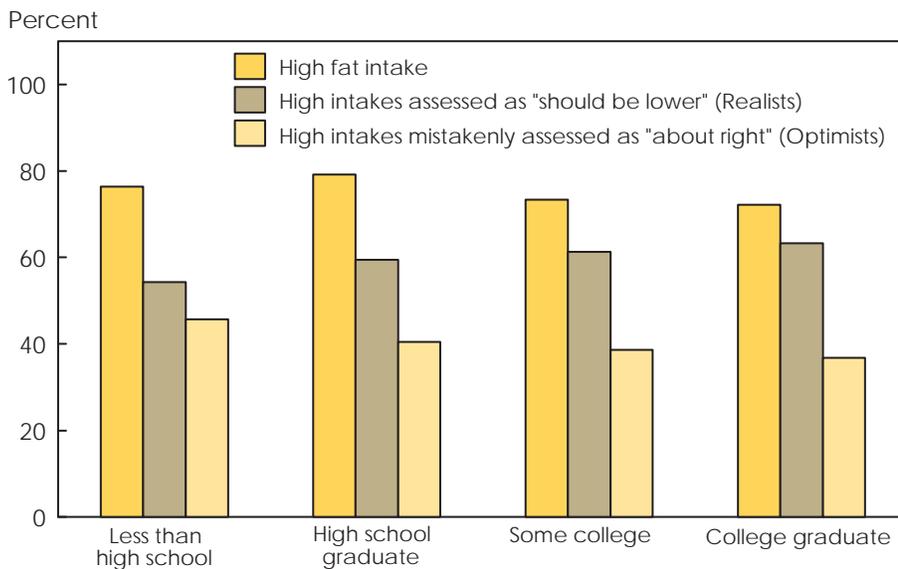
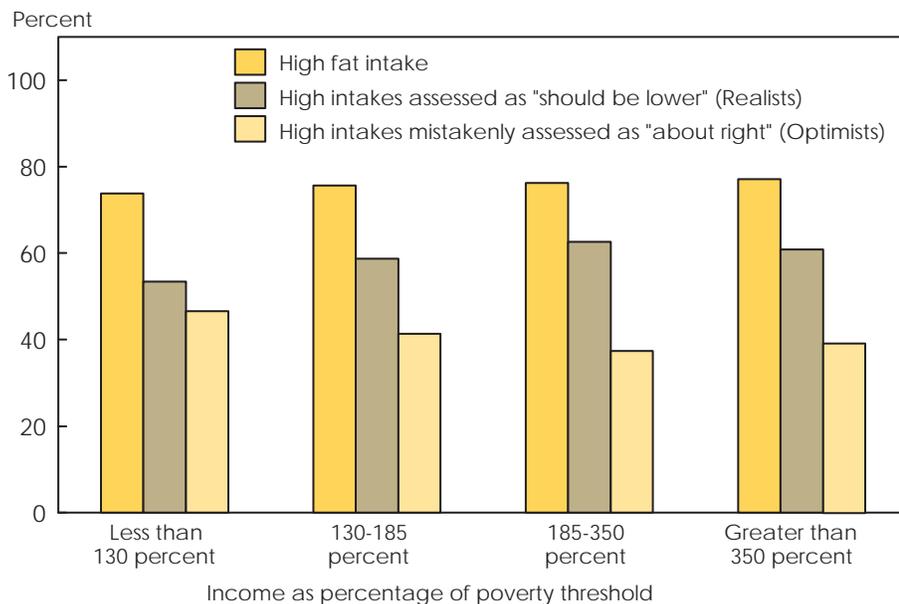


Figure 6  
...And Household Income



with doubts about whether a healthier diet could provide the same amount of satisfaction. *Realists* may also find their food choices limited by their income, the time they have available to prepare food, or both.

Dietary habits and perceptions are slow to change, but the recent introduction of food labeling and advertising rules and regulations are a step in the right direction toward helping consumers make smart food choices. The "Nutrition Facts" label, which became mandatory in 1994, lists the content of calories, fat, saturated fat, and cholesterol (in addition to other nutrients) in each serving of most packaged food items. There also have been changes in

meat and poultry labeling, and in the health claims that are permitted in food advertising.

Although some consumers have expressed confusion (and sometimes skepticism) about certain aspects of the Nutrition Facts label, studies indicate that the overall effect has been to enhance consumers' ability to make informed nutritional decisions. Various surveys indicate that as many as 78 percent of consumers were well aware of the Nutrition Facts label by 1995. New products that meet U.S. Food and Drug Administration labeling requirements to be called "low fat," "reduced fat," or "light" are being introduced to the market at a rapid pace. This trend may help to make maintaining a healthy diet more convenient and affordable. Also,

increased availability of healthier versions of familiar foods could persuade consumers that a healthy diet may not entail as much sacrifice as they had supposed. Perhaps when new food intake surveys are analyzed, the pace of dietary changes will have accelerated.

## References

- Cypel, Y.S., J.A. Tamaki, C.W. Enns, A.B. Nowverl, L.E. Cleveland, and K.S. Tippet. *Nutrition Attitudes and Dietary Status of Main Meal Planners/Preparers, 1989-91: Results from 1989-91 Diet and Health Knowledge Survey and the 1989-91 Continuing Survey of Food Intakes by Individuals*, NFS Report No. 91-1. U.S. Department of Agriculture, Agricultural Research Service. Jan. 1996.
- Marshall, James R. "Editorial: Improving Americans' Diet—Setting Public Policy with Limited Knowledge," *American Journal of Public Health*, Vol. 85, No.12, Dec. 1995.
- Moorman, Christine. "A Quasi Experiment to Assess the Consumer and Informational Determinants of Nutrition Information," *Journal of Public Policy and Marketing*, Vol. 15, April 1, 1996, p. 29.
- Silvergale, Ronald. "The Nutrition Labeling and Education Act—Progress to Date and Challenges for the Future," *Journal of Public Policy and Marketing*, Vol. 15, April 1, 1996, p. 148. ■